

## **CONTROLLER FOR GAS CONCENTRATION SENSOR**

### **ABSTRACT OF THE DISCLOSURE**

5     An oxygen sensor is employed for determining whether the exhaust  
air-fuel ratio is rich or lean. A voltage is applied to the oxygen sensor at device  
impedance calculation intervals to calculate device impedance. After device  
impedance calculation, a reverse voltage is applied to the oxygen sensor with a  
view toward promptly negating the influence of voltage application on the sensor  
output. Subsequently, the sensor output of the oxygen sensor is sampled at  
10   sampling time intervals until it is concluded that the device impedance calculation  
period is over.